

Can a type strain mimic the behaviour of strains found in real systems?

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Pseudomonas fluorescens ATCC 13525, the type strain, and two *P. fluorescens* strains isolated from a dairy processing plant were characterized in terms of biofilm formation ability. Biofilms were developed in two distinct apparatus: flow cell reactor operating under turbulent and laminar flow and a bioreactor rotating device.

The flow cells were used to develop biofilms under turbulent and laminar flow. Subsequently, the biofilms were compared in terms of biochemical (OMP expression, total, extracellular and intracellular proteins and polysaccharides), metabolic (respiratory activity) and structural characteristics (direct visualization and SEM). The biofilms formed using the rotating device were characterized in terms of biochemical (total, extracellular and intracellular proteins and polysaccharides), metabolic (respiratory activity) and structural characteristics (direct visualization) and their behaviour when exposed to external mechanical stress conditions (biofilm mechanical stability).

The results obtained allow to conclude that similar characteristics were found in biofilms from the different strains, and the results found for the type strain were comparable with the ones obtained with the strains isolated from the industrial system. Reinforcing this idea is that in the studies of biofilm mechanical stability, the biofilms formed by the type strain presented the higher recalcitrance to removal face to the mechanical stress.